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# A survey of school dental screening practise in community dental services of England and Wales in 2003

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***Objective:*** To describe the school dental screening process in Community Dental Services across England and Wales. ***Basic research design:*** Cross-sectional study using a postal questionnaire. ***Clinical setting:*** Community Dental Services. ***Participants:*** Clinical Directors of Community Dental Services in England and Wales. ***Main outcome measures:*** Respondents answers about the objectives of school dental screening, criteria used for referring a child, methods of informing parents of screening results, and methods used to confirm subsequent dental attendance. ***Results:*** The response rate for this study was 92.1%. Respondents identified dental registration (75.2%) and attendance at a dentist (82.9%) as objectives of school dental screening. Less than one third (29.5%) saw the activity as having a preventive role. Caries in the primary and secondary dentitions and soft tissue lesions were reported as key criteria for referral. Methods of follow-up of screened positive children differed and were often inadequate; approximately one third of respondents used a letter carried home by the child that did not allow parents to inform the CDS of action taken. Half of the respondents routinely collected data on the number of screened positive children who subsequently visit a dentist. ***Conclusions:*** School dental screening is delivered in a similar fashion throughout England and Wales but methods of informing parents of a positive screen and follow–up mechanisms for children with positive screens vary. Most school dental screening programmes do not collect sufficient data to evaluate the impact of their programmes on children's oral health.

*Key words: Dental, school, screening*

## Introduction

In England and Wales dental screening is a core function of the Community Dental Services and it is a statutory requirement that school children receive a dental inspection at least three times during their school careers (Department of Health, 1997). The UK National Screening Committee advises the government on screening policy and has advised that school dental screening should be formally reviewed (Child Health Subgroup, 2003). The Committee believes that a key feature of any widely implemented screening programme is that it is able to reproduce the outcomes of research in the day to day running of the programme. The cornerstone of this approach is that screening programmes should have quality assurance mechanisms to maintain and improve quality and that screening performance should be monitored and judged against explicit standards, which in turn should be periodically re-set in the light of changing circumstances (Balmer *et al*., 2000). In 1994 a national survey of Clinical Directors of Community Dental Services revealed some differences in screening practice and inadequate monitoring of screen positive children by most local services across England and Wales (Mander, 1995). The purpose of this study is to describe the practice of school dental screening in England and Wales in 2003, to report how outcomes of screening are monitored at the local level, and to compare recent practice with that reported in 1995.

## Method

This was a descriptive, cross sectional study, carried out using a postal questionnaire. The study population consisted of clinical directors of Community Dental Services in England and Wales. The clinical director of each of the 140 community dental services included in the National Association for Dentists in Health Authorities and Trusts list for 2001 were contacted.

A short questionnaire was designed that could be completed in less than fifteen minutes. The questionnaire gathered the views of clinical directors on: the role of school dental screening, the criteria used by their service to prompt a referral, the methods used to inform parents of screened-positive children of the result and the efforts made to confirm attendance at a dentist for those children who screened positive. The main questions were closed questions that were categorical and asked respondents to choose one or more options from a list of possible options. In addition open questions were used to allow respondents to add any additional categories that applied to their service but were not included in the options provided. The hand written responses to these open questions were coded using content analysis.

Slight modifications were made to the questionnaire following a pilot study involving two former Community Dental Service clinical directors. A multistage mailing methodology was used to ensure a high response rate.

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The questionnaires were sent out between September 2003 and December 2003. Data were analysed quantitatively and frequency distributions and percentages calculated.

## Results

A total of 129 questionnaires were returned, a response rate of 92.1 percent. The views of these Clinical Directors on the objectives of School Dental Screening are presented in Table 1. Eight out of 10 of the Clinical Directors (82.9%) reported that an objective of school dental screening was to ensure that children in need of treatment attended a dentist. Similar proportions (75.2%, 78.3%) considered that an objective of school dental screening was to increase dental registration and reduce untreated dental disease. Approximately a third (29.5%) reported that an objective of school dental screening was to prevent disease in the child population. Some respondents added objectives not listed in the table; 10.1% of respondents suggested service planning and 7.0% the targeting of services as objectives of dental screening.

Table 2 sets out the criteria which, when considered in isolation, would prompt a referral following the school dental inspection. There were four single criteria that would prompt a referral from approximately 90% of the respondents' services: caries in the primary dentition, caries in the permanent dentition, soft tissue lesions and oral sepsis. Only one in five respondents (20.9%) reported that a child should be referred if they are not registered with a dentist.

The majority of respondents (117 of the 129) reported using negative consent when undertaking school dental screening. When asked to indicate the method used to inform parents about the results of screening 111 (86.7%) of the respondents ticked one of four possible options listed, 15 reported that more than one method was used and three did not answer the question. Of the 111 respondents 56 (50.5%) indicated that they used a letter given to the child to take home that had a return slip for the parent or carer to sign, 38 (34.2%) a letter given to the child to take home that did not have a return slip for the parent or carer to sign, and 17 (15.3%) sent letters directly to the parents or guardians. None of the respondents ticked the fourth option telephoning parents or guardians directly about the outcome of the dental screen. A small proportion of respondents provided additional information, which indicated that two services provide a letter asking the parent or carer of a screened positive child to telephone the community dental clinic and one service issues letters for parents that contain a section for a dentist to sign when the child has received treatment.

Of the 129 respondents 64 (49.6%) reported routinely collecting data on the number of screened positive children who subsequently visit a dentist following school dental screening.

**Table 1**. The responses of 129 respondents to the question: Which of the following do you consider to be objectives of School Dental Screening?

| *Stated objective* | *Yes %* | *No %* | *Did not answer Yes or No %* |
|---|---|---|---|
| To reduce the levels of untreated dental disease/ conditions in the child population | 78.3 | 15.5 | |
| To increase registration rates with dentists in the child population | 75.2 | 17.1 | 7.8 |
| To prevent dental disease/ conditions in the child population | 29.5 | 52.7 | 17.8 |
| To ensure that children who require treatment attend the dentist | 82.9 | 10.1 | .0 |
| To encourage children from underprivileged backgrounds to attend the dentist | 82.2 | 10.1 | 7.8 |

**Table 2.** The responses of the 129 respondents to the question: Which of the following criteria, by themselves, would trigger a referral from School Dental Screening in the service you manage?

| *Criterion* | *Yes %* | *No %* | *Did not answer Yes or No%* |
|---|---|---|---|
| Child unregistered with a dentist | 20.9 | 65.9 | 13.2 |
| Caries in the primary dentition | 90.7 | 8.5 | 0.8 |
| Caries in the permanent dentition | 93.8 | 5.4 | 0.8 |
| Sepsis | 95.3 | 3.9 | 0.8 |
| Poor oral hygiene | 40.3 | 48.1 | 11.6 |
| Untreated trauma | 78.3 | 17.1 | 4.7 |
| Periodontal /gingival conditions | 69.0 | 22.5 | 8.5 |
| Enamel lesions | 19.4 | 64.3 | 16.3 |
| Orthodontic conditions | 60.5 | 31.0 | 8.5 |
| Soft tissue lesions | 89.9 | 5.4 | 4.7 |

## Discussion

This study supplies an overview of how the Community Dental Service in England and Wales conducts its statutory dental screening function. The aims of school dental screening are not universally agreed among Clinical Directors in England and Wales but most currently see dental screening as a vehicle to increase dental registration amongst school children, a way of ensuring that children in need of dental treatment attend a dentist and as a method of reducing levels of untreated disease. However, approximately one third of those asked (29.5%) saw school dental screening as a vehicle for population prevention.

Screening is not simply the delivery of a screening test, it is a process that starts with the identification of a population at risk and ends when individuals screened positive complete appropriate treatment. The process of school dental screening has been criticised because of unstructured referral criteria, ill defined screening methods and lack of standardisation (Milsom, 1995 and Tickle and Milsom, 1999). This study highlights some incongruities between the stated goals of dental screening programmes and the screening process. For example, three-quarters of those questioned felt that an increase in dental registration was a key role of school dental screening yet only one in five services used registration status as a trigger for referral. It also highlights a possible tension between screening practice and general dental practice. For example, over 90 percent of those questioned felt that referral of children with caries in their primary teeth was important, a figure that was little changed from that reported by Mander in 1995, but the restorative index for five-year-olds remains low (Pitts *et al*., 2003) and recent research suggests that restoration of the primary dentition may not lead to improved health outcomes (Tickle *et al*., 200). In addition it seems that many general dental practitioners feel that caries in the primary dentition should not necessarily trigger a referral from screening (Kearney-Mitchell *et al*., 2006). Differences in the outcomes wanted by screeners and the clinicians providing the treatment could lead to failure of the screening process.

Consent procedures for children were found to be similar, nearly all services used negative consent when screening, but practices of informing the parents or guardians of screened positive children differed. The majority of services inform parents or carers that their child needs further investigation or treatment by letter, some services send the letter directly to the parent but most rely on the screened children to deliver the letters. Many of the services that rely on children to deliver the result of screening use a letter with a reply slip for parents to sign but a substantial proportion of services using this method did not include a reply slip.

The National Screening Committee recommend that the benefits of dental screening should be defined in terms of the number of children referred from the screening test with new, previously undiagnosed disease, and the number of these children that actually go on to receive treatment which they would not otherwise have had (Child Health Subgroup, 2003). Only half of the Clinical Directors reported that they had systems in place to record the attendance at a dentist of screened positive children. Although this latter figure is slightly higher than the 39.1% reported by Mander (1995) nevertheless, this level of follow-up is worrying as many programmes do not appear to collect data that would be needed for even the most rudimentary examination of the quality and impact of their screening programmes. Furthermore the policy of the National Screening Committee has been to consider screening for any condition within the wider context of disease control, including prevention and treatment (Balmer *et al*. 2000), yet only a minority of Clinical Directors (29.5%) see school dental screening as a vehicle to promote prevention of dental disease.

In general little appears to have changed within school dental screening in the last decade with the aims remaining somewhat unclear and the process of delivery appearing stubbornly resistant to improvement in quality. There is suboptimal follow up of those screened positive, and insufficient monitoring of how effective school dental screening is at stimulating actual attendance at a dentist. The findings of this study underline the need for a national review of school dental screening. Of most concern is the observation that the profession appears to be unaware of the need to follow screened positive children from identification through to treatment. The lack of agreed targets, quality assurance, and evaluation of outcomes that appears to be tolerated for School Dental Screening would be unacceptable in other national UK screening programmes.

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